

manipulations themselves do not require any exceptional dexterity. Chest cases are as urgent as abdominal cases and should be evacuated direct to the casualty clearing station as soon as they can stand the journey. The better the evacuation from the battlefield and from the advanced medical units the severer is the type of case that reaches the casualty clearing station. Thus deaths occur in the casualty clearing station that would otherwise take place farther forward. The percentage of severe chest wounds reaching the casualty clearing station is very much greater when the casualties are principally due to shelling and bombing, especially of the back areas, when the casualty clearing stations are the nearest medical units. Cases of traumatopnea should be closed (preferably by suture) at the advanced dressing station, or even, if possible, at the regimental aid post. Old chest cases should be given morphin early. Active resuscitation must be carried out at the casualty clearing station immediately upon admission. The majority of severe chest wounds require blood transfusion. The value of x-ray examination in chest surgery cannot be overestimated. The complete intrathoracic operation is a serious one and should not be lightly undertaken. Local anesthesia, combined with gas and oxygen (if required), should be employed in chest surgery. Speed and absolute asepsis are essential to success. The operation must begin with total excision of the wound and end with hermetical sealing of the thorax. No fluid must be allowed to collect in the pleural cavity after the operation. Resection and drainage should be a late resort, and are rarely necessary, never unless severe constitutional symptoms of infection are present. Non-operated cases should be treated precisely as postoperative cases. Men who have been exposed to asphyxiating gases bear chest wounds badly. At certain seasons bronchopneumonia is a complication greatly to be feared. In no class of surgery is team work so essential to success.

Treatment of Wounds of the Chest.—HUTCHINSON (*British Med. Jour.*, February 16, 1918, p. 196) says that all cases of wounds of the chest should be treated in special wards or special hospitals. Careful charts should be kept which record temperature, pulse and respirations four times a day. Early diagnosis of infection is important. Every case in which there is more than two finger-breadths of dulness should be aspirated. Cases of open pneumothorax should be closed as early as possible. Cases in which there is a large amount of clot in the chest should be opened, blood and clot evacuated and the chest closed. This should be done as early as possible. Cases in which the hemothorax is found to be infected should be opened, washed out and closed, some antiseptic being left in, preferably an emulsion of bipp in liquid paraffin. Postoperative aspirations must be done in all closed cases the first forty-eight hours after operation. No attempt should be made at the base in France to remove a foreign body from the lung.

The Guillotine Amputation.—MURRAY (*British Med. Jour.*, February 23, 1918, p. 230) says that it is unfortunate that so few surgeons working at the front have not had the opportunity of seeing the after-results of the guillotine method. It may be that the fear of gas gangrene is the important factor which has caused this plan to be adopted so generally.

A guillotine amputation invariably necessitates reamputation, but apart from this the great disadvantage is that by the time the patient arrives in England the skin has retracted so much that a large granulating and suppurating stump is exposed. The dressings are often extremely painful and the subsequent loss of bone, even after prolonged extension to draw the skin down, is sometimes very great. If surgeons in France decide that after all it must be a guillotine amputation it is hoped they will so modify it as to leave much more skin and so dispense with many subsequent troubles and save the ultimate length of the patient's limb.

Pulse Rate and Blood-pressure Observations as an Aid in the Treatment of Head Traumas.—SIEBER (*Ann. Surg.*, 1918, lxxvii, 51) says that a rapid encroachment upon the intracranial space by any foreign body produces anemia of the brain and medulla and is associated with a physiological response represented by an increase in the general arterial pressure and decrease in pulse rate. The associated intracranial pressure complications are the dangerous factors in fractures of the skull. When the degree of intracranial pressure equals or exceeds the arterial pressure death results. Frequent blood-pressure and pulse-rate observations not only determine the degree of intracranial pressure but may be utilized as indications for or against the advisability of relieving the pressure. Intracranial pressure should be relieved before the advanced stage of medullary compression and edema is produced. The subtemporal decompression is the advisable method for relief of intracranial pressure. By frequent blood-pressure and pulse observations fractures of the skull may be divided into three groups: (1) Those cases which at no time show any evidence of intracranial pressure; (2) cases presenting definite signs of increase of intracranial pressure; (3) cases presenting signs of advanced medullary compression or in which there is evidence of severe laceration or contusion of the brain.

A Study of Ante-operative and Post-operative Blood Counts in Non-infective Surgical Conditions.—MELENEY (*Ann. Surg.*, 1918, lxxvii, 129) says that in surgical cases undergoing operation without infection the white cells increase in number, and about six hours after operation have more than doubled. The response is due almost entirely to the outpouring of polymorphonuclear cells. There is a trivial rise in red cells after operation, but in the subsequent ten days this is followed by a progressive anemia, with an average loss of about 500,000 cells per cubic millimeter. The white cell count may be expected to fall rapidly in clean cases and reach normal on the fourth day. In infected or contaminated cases it will fall much more slowly. Infection and contamination have nothing to do with the initial rise, but on the second or third day after operation they will tend to keep the count high. Other things being equal the count will be higher in those cases in which there are severe trauma to the tissues, many sutures and ligatures used, considerable loss of blood and long anesthesia, especially with ether. Normal individuals will produce a higher leukocytosis than abnormal types.